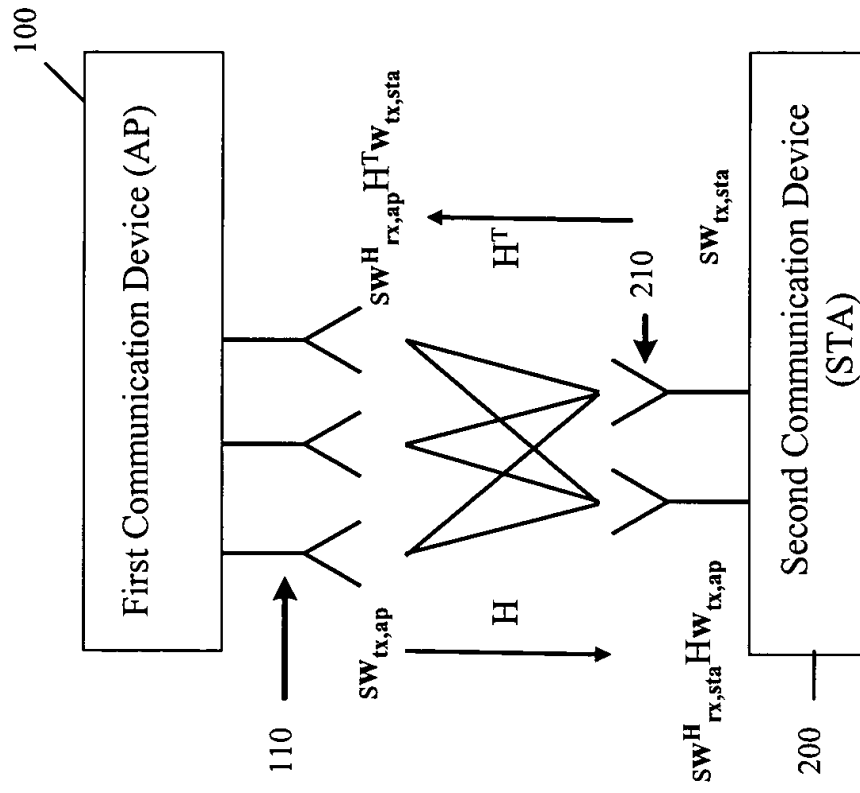


FIG. 1



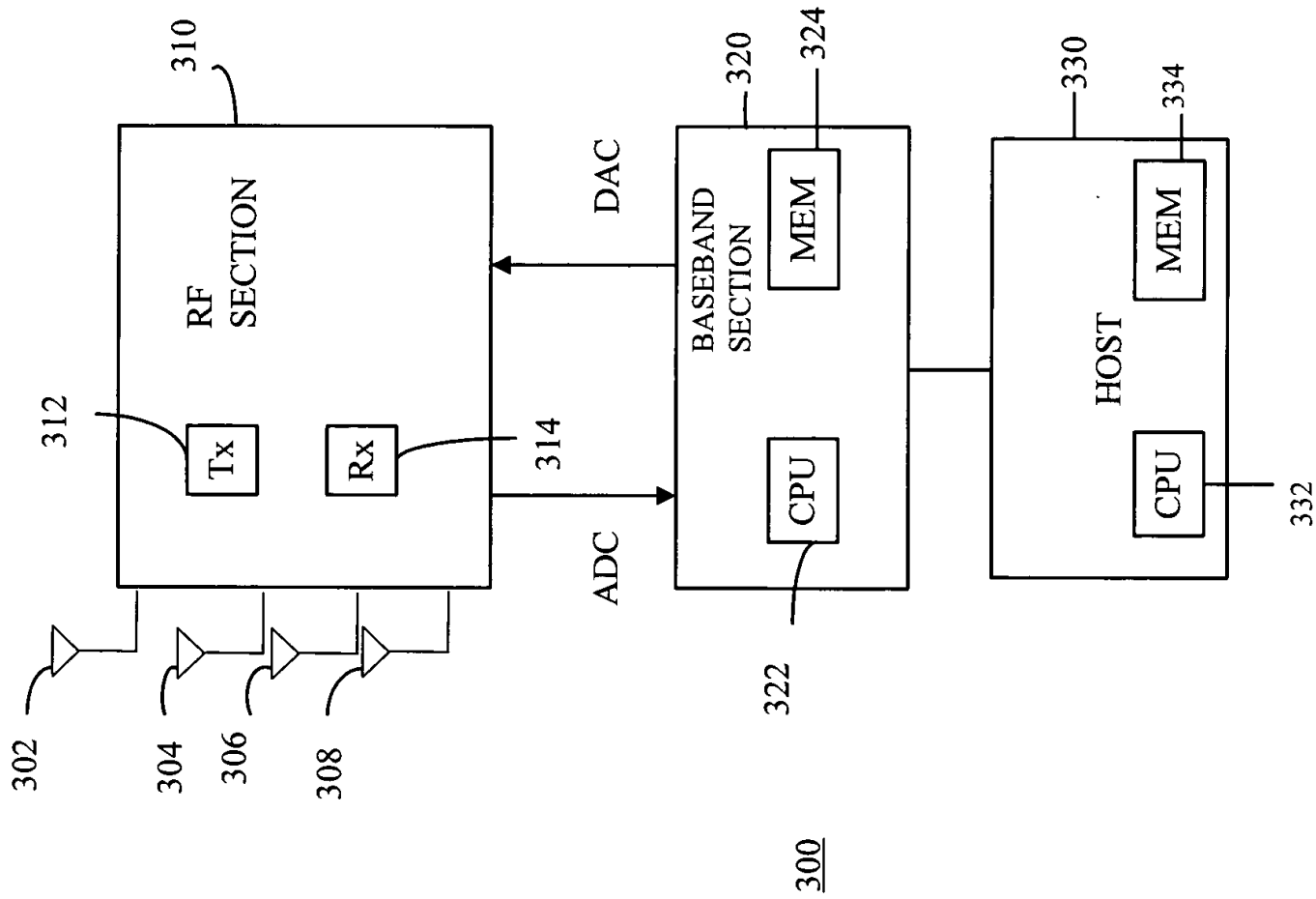


FIG. 2

FIG. 3

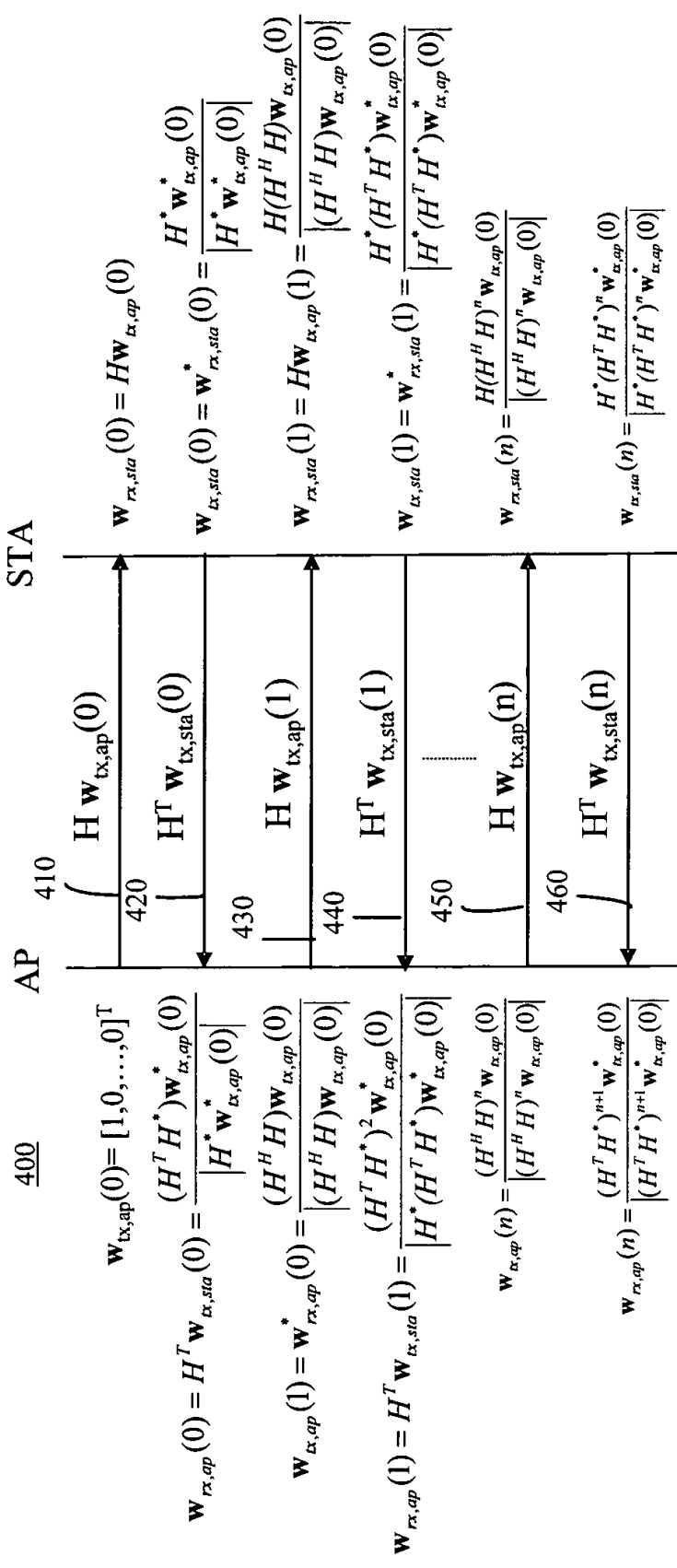


FIG. 4

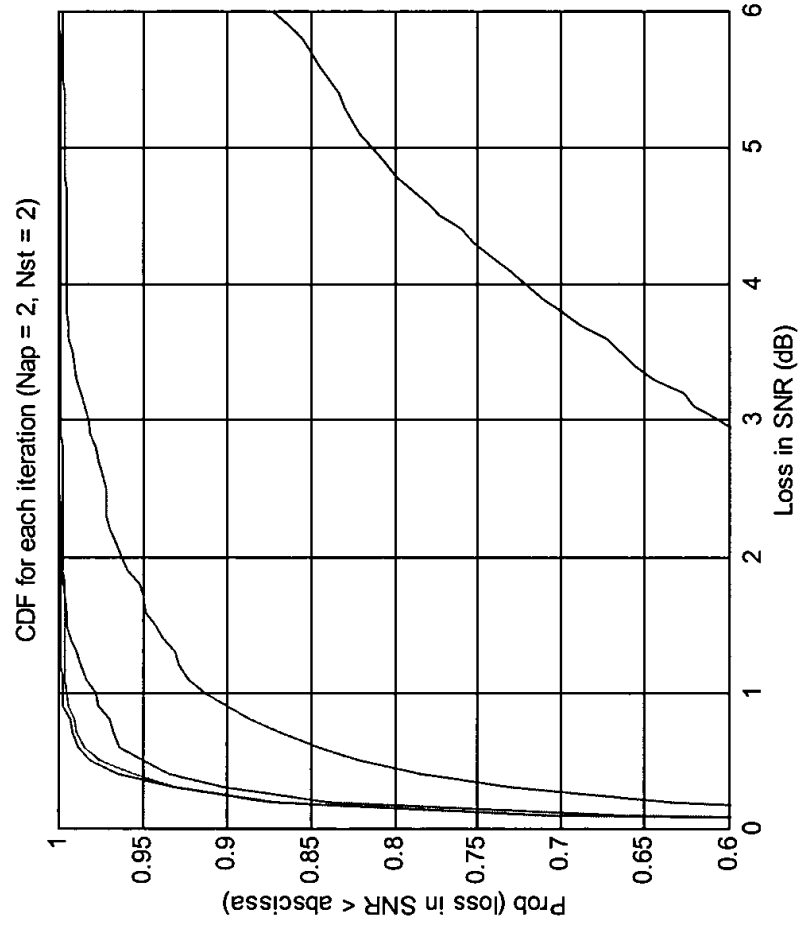


FIG. 5

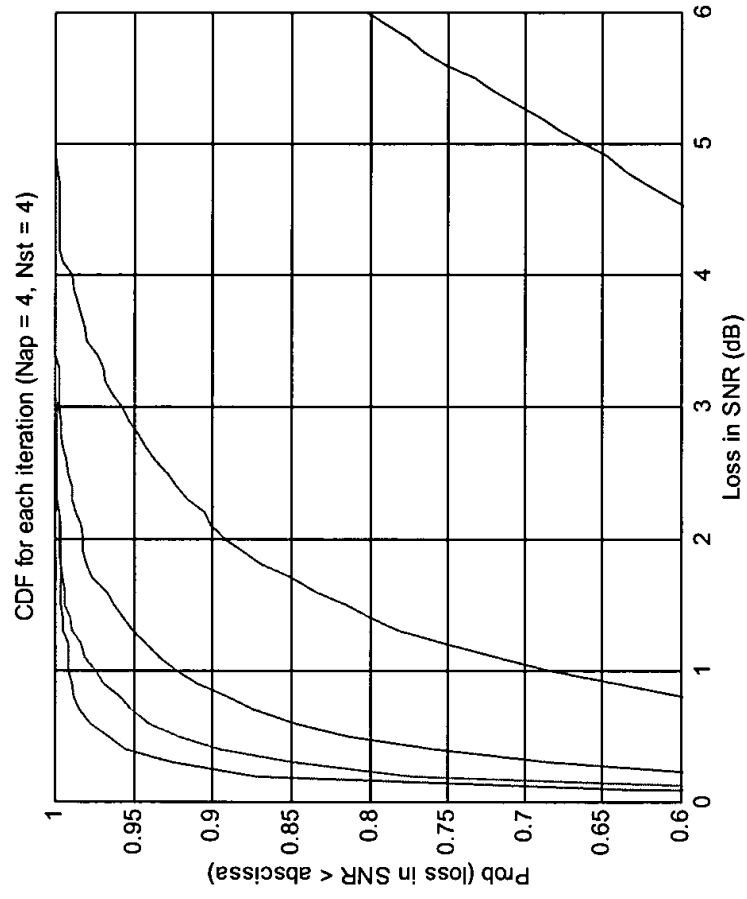


FIG. 6

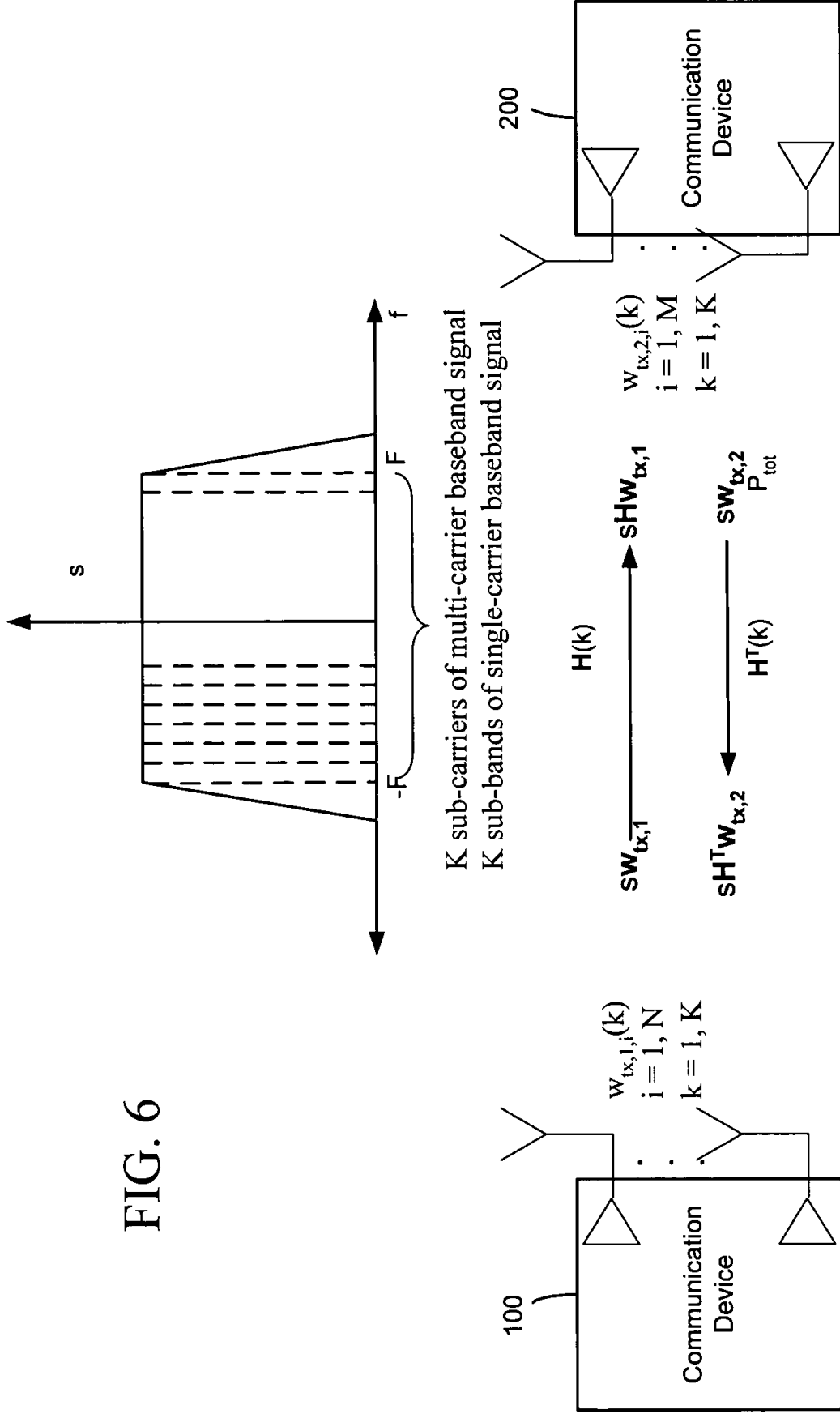


FIG. 7

480

$$\begin{aligned}
 \mathbf{w}_{T,AP,0}(k) &= \frac{1}{\sqrt{Nap}} [1, 1, \dots, 1]^T \\
 \mathbf{w}_{R,AP,0}(k) &= \mathbf{H}^T \mathbf{w}_{T,STA,0}(k) = \frac{(\mathbf{H}^T \mathbf{H}^*) \mathbf{w}_{T,AP,0}^*(k)}{|\mathbf{H}^* \mathbf{w}_{T,AP,0}(k)|} \\
 \mathbf{w}_{T,AP,1}(k) &= \mathbf{w}_{R,AP,0}^*(k) = \frac{(\mathbf{H}^H \mathbf{H}) \mathbf{w}_{T,AP,0}(k)}{|\mathbf{H}^H \mathbf{H}) \mathbf{w}_{T,AP,0}(k)|} \\
 \mathbf{w}_{R,STA,0}(k) &= \mathbf{H} \mathbf{w}_{T,AP,0}(k) = \frac{H(k) \mathbf{w}_{T,AP,0}(k)}{H^T(k) \mathbf{w}_{T,STA,0}(k)} \\
 \mathbf{w}_{T,STA,0}(k) &= \mathbf{w}_{R,STA,0}^*(k) = \frac{H^*(k) \mathbf{w}_{T,STA,0}(k)}{H^T(k) \mathbf{w}_{T,STA,0}(k)} \\
 \mathbf{w}_{R,STA,1}(k) &= \mathbf{H} \mathbf{w}_{T,AP,1}(k) = \frac{H(\mathbf{H}^H \mathbf{H}) \mathbf{w}_{T,AP,1}(k)}{|\mathbf{H}^H \mathbf{H}) \mathbf{w}_{T,AP,1}(k)|} \\
 \mathbf{w}_{T,STA,1}(k) &= \mathbf{w}_{R,STA,1}^*(k) = \frac{H^*(\mathbf{H}^T \mathbf{H}^*) \mathbf{w}_{T,AP,1}(k)}{|\mathbf{H}^* (\mathbf{H}^T \mathbf{H}^*) \mathbf{w}_{T,AP,1}(k)|}
 \end{aligned}$$

FIG. 8

500

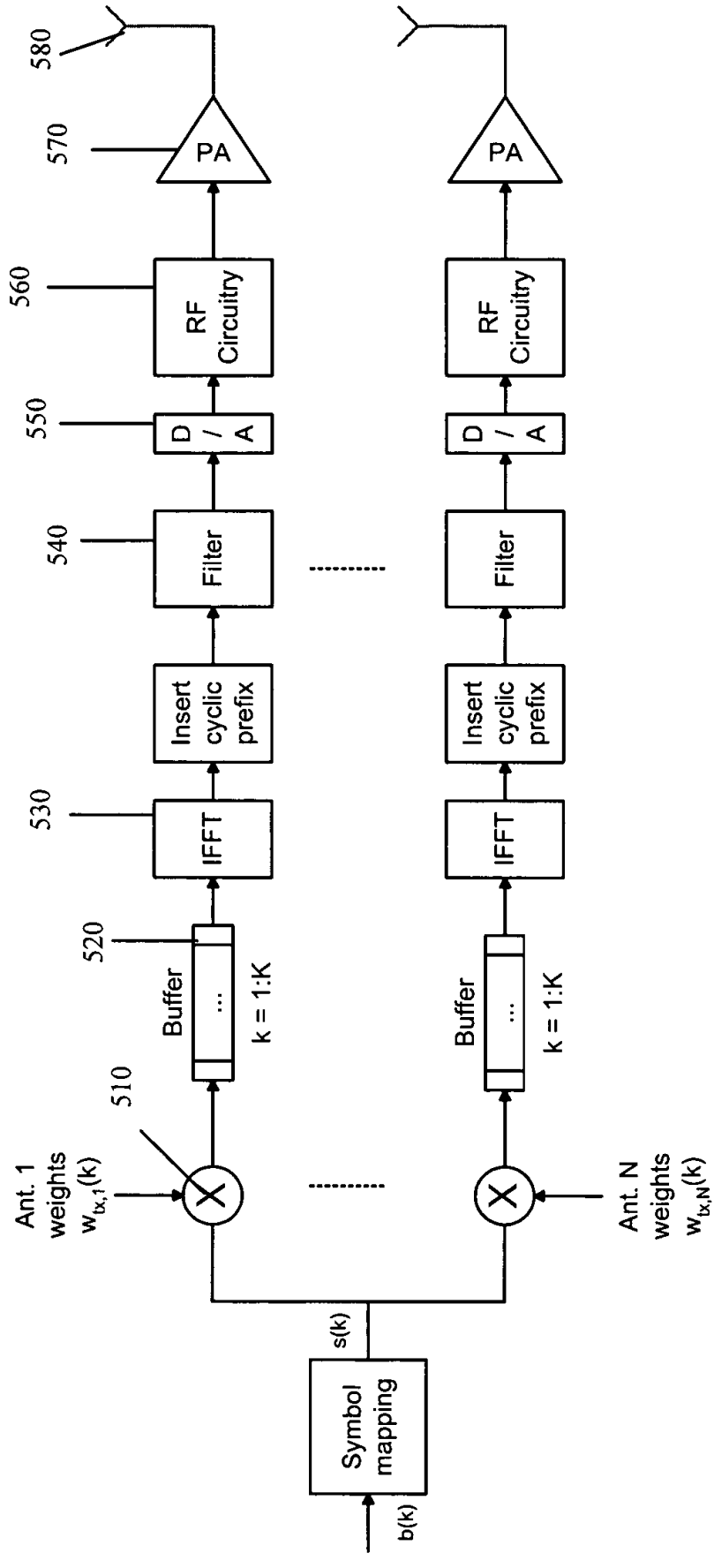


FIG. 9

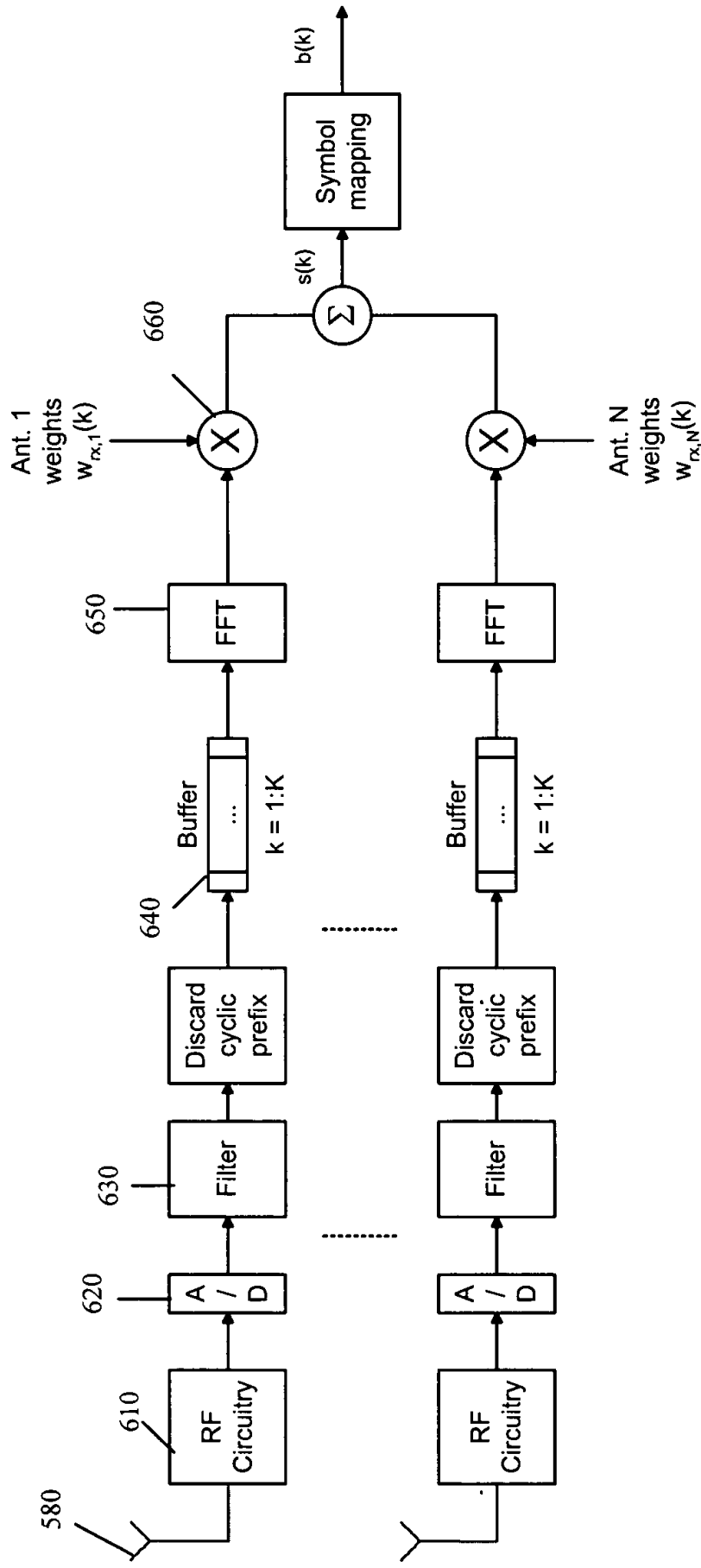


FIG. 10

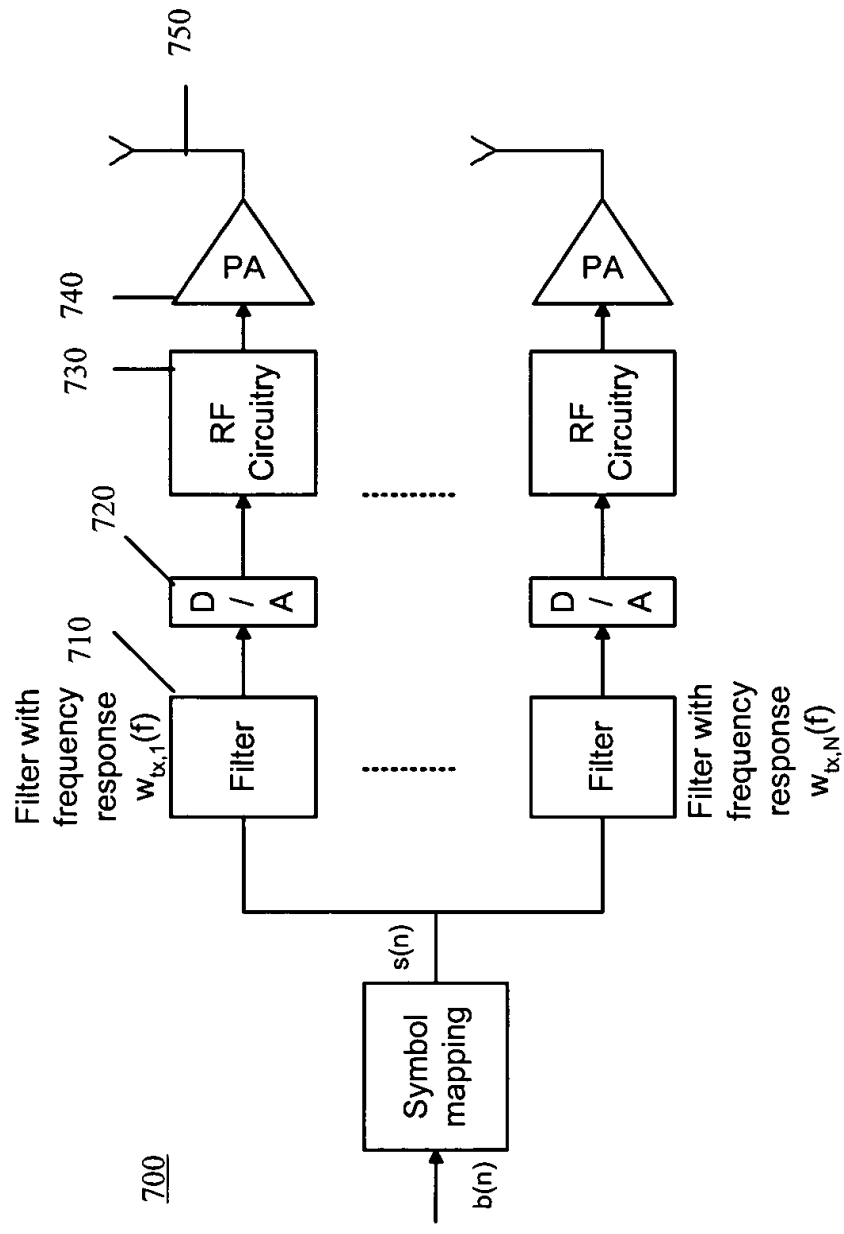


FIG. 11

800

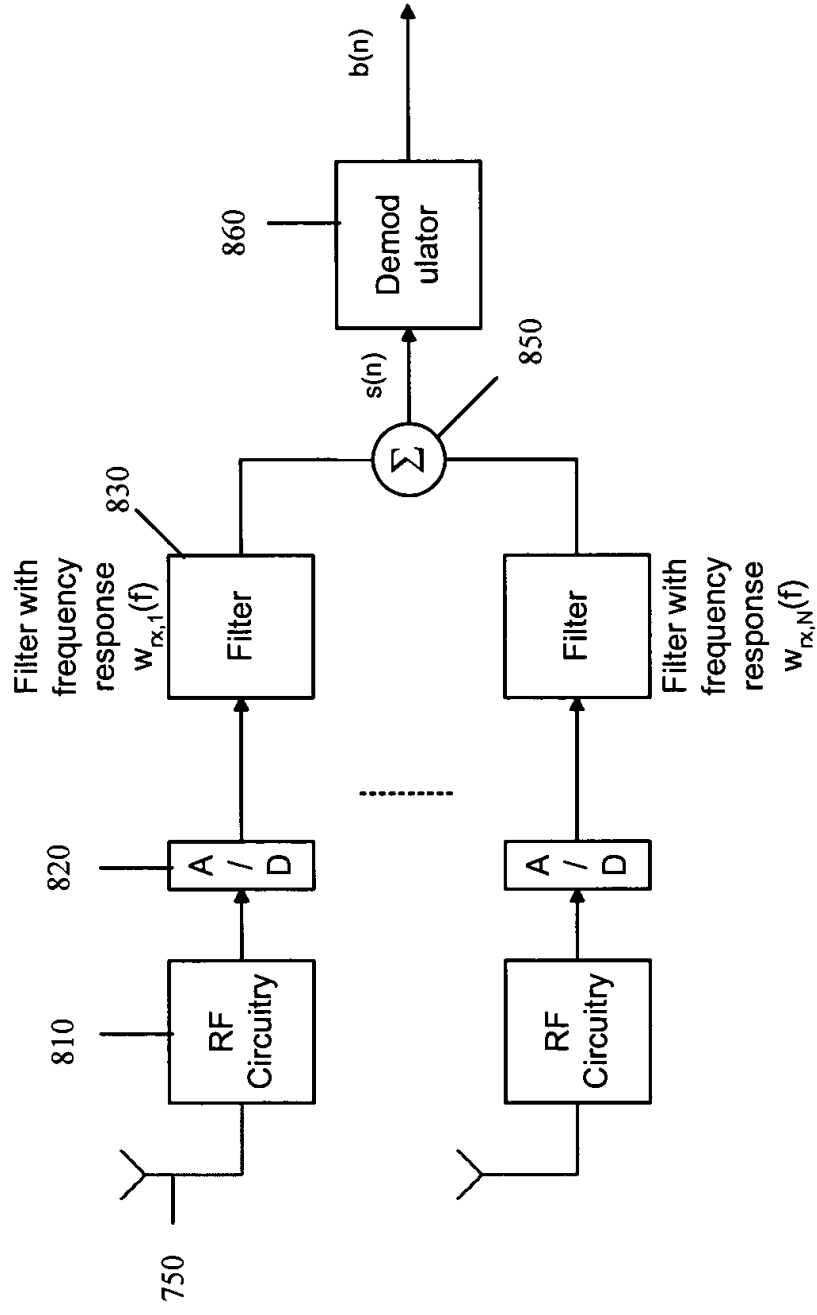


FIG. 12

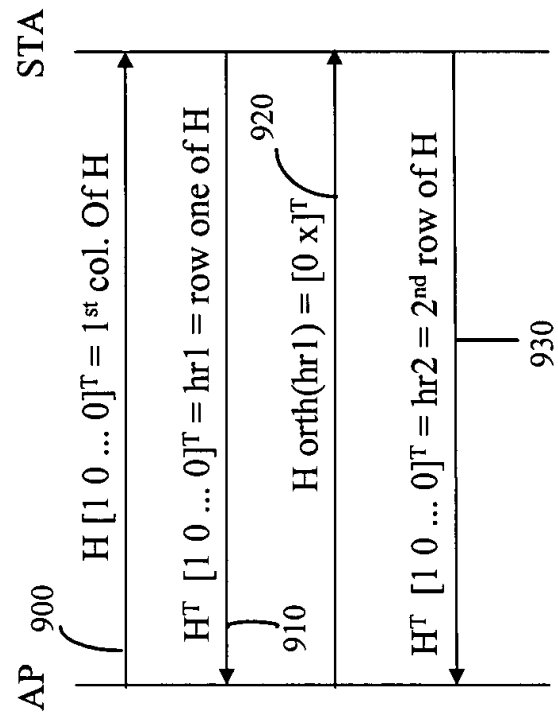


FIG. 13

